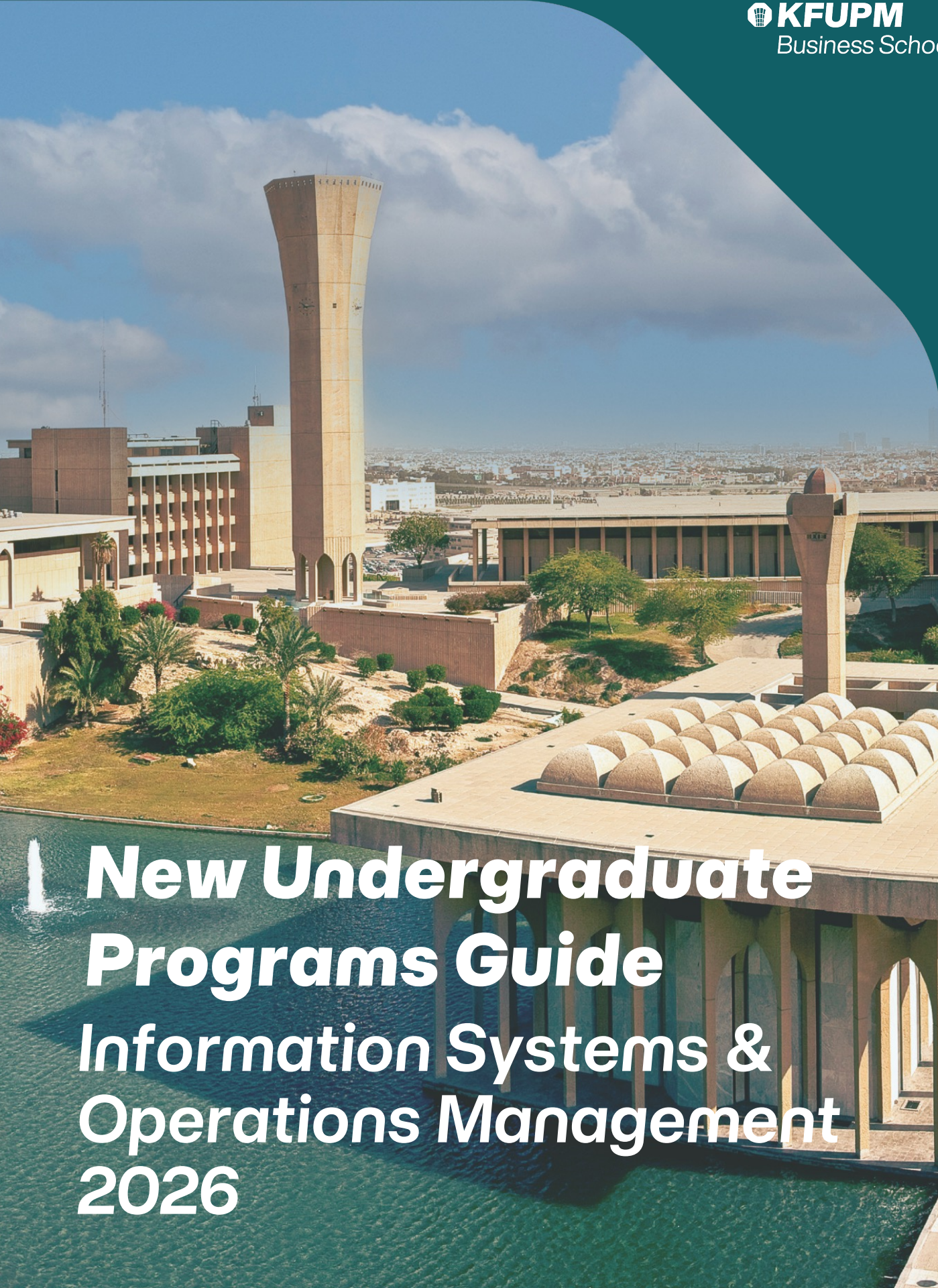




New Undergraduate Programs Guide Information Systems & Operations Management 2026

BS Operations and Supply Chain

A business degree **built** for the **age of data and AI**



Overview

The Bachelor of Science in Operations & Supply Chain Management prepares students to improve **organizational efficiency and supply chain performance** through operations management, supply chain strategy, data analytics, forecasting, optimization, and digital technologies. The program equips graduates to **analyze and improve operational processes, manage sourcing, production, inventory, and logistics activities, support data-driven planning and decision-making**, and enhance resilience and responsiveness across complex supply chain networks. The curriculum is structured as a **progression from operational foundations to advanced supply chain analytics, optimization, and performance improvement**.

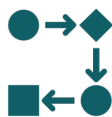


Prepares graduates to leverage **analytics, optimization, and digital technologies** to drive **operational excellence and supply chain performance** in dynamic global markets.

Disciplines and competencies covered



Supply chain



Operations



Quant/analytics/
computing



Global business



Combines **supply chain strategy, forecasting, optimization, operations management, and digital technologies** to enhance end-to-end operations and supply chain



Prepares graduates for rising demand in **operational excellence, supply chain resilience, digital planning, sourcing, and logistics** roles



Emphasizes **analytics, AI-enabled forecasting, enterprise systems, resilience, and trade-off decisions** across cost, service, speed, and risk



“

Driving performance through **analytics driven** supply chain and operations



Degree Plan

BS Operations and Supply Chain



Four years

| 128 Credit Hours

| Summer Training

Freshman Year

Semester 1

Course	Title	LT	LB	Cr
BUS 200	Business & Entrepreneurship	3	0	3
ECON 101	Principles of Microeconomics I	3	0	3
ENGL 101	Intro. to Academic Discourse	3	0	3
ICS 104	Intro. to Programm. In Python & C	2	3	3
MATH 101	Calculus 1	4	0	4
PE 101	Health and Physical Education 1	0	2	1
Total		15	5	17

Semester 2

Course	Title	LT	LB	Cr
ACCT 110	Intro. to Financial Accounting	3	0	3
ECON 102	Principles of Microeconomics II	3	0	3
ENGL 102	Intro. to Report Writing	3	0	3
IAS 111	Beliefs and its Consequences	2	0	2
MATH 102	Calculus II	4	0	4
Total		15	0	15

Sophomore Year

Semester 1

Course	Title	LT	LB	Cr
ACCT 210	Intro. to Managerial Accounting	3	0	3
IAS 121	Language Foundation	2	0	2
ENGL 214	Academic & Professional Comm. Statistical Methods for Actuarial Science and Business	3	0	3
STAT 214		3	2	4
ISE 291	Intro. to Data Science	3	0	3
Total		14	2	15

Semester 2

Course	Title	LT	LB	Cr
BAI 220	Business Information & Digital Systems	2	2	3
FIN 250	Financial Management	3	0	3
MKT 250	Principles of Marketing	3	0	3
COE 292	Intro. to Artificial Intelligence	3	0	3
OSC 210	Introduction to Operations and Supply Chain	3	0	3
IAS 212	Professional Ethics	2	0	2
Total		16	2	17

Junior Year

Semester 1

Course	Title	LT	LB	Cr
BAI 300	Applied AI for Business	3	0	3
CGS 392	Career Essentials	0	2	1
OM 311	Business Analytics	3	0	3
IAS 3/4xx	Islamic/Arabic Elective	2	0	2
OSC 310	AI for Forecasting and Operations Planning	3	0	3
OSC 320	Intelligent Enterprise Systems	3	0	3
Total		13	2	15

Semester 2

Course	Title	LT	LB	Cr
GS XXX	GS Elective	3	0	3
ISE 402	Production Systems and Inventory Control	3	0	3
OSC 331	Sourcing and Procurement	3	0	3
OSC 340	Decision and Risk Analytics	3	0	3
OSC 410	Analytics for Performance Excellence	3	0	3
Total		15	0	15

OSC 399 - Summer training (1Cr)

Senior Year

Semester 1

Course	Title	LT	LB	Cr
ISE 443	Human Factors Engineering	2	3	3
OSC 410	Analytics for Performance Excellence	3	0	3
OSC 450	Sustainable Operations	3	0	3
OSC 411	Senior Project I	0	0	0
OSC/ISE xxx	Major Elective 1	3	0	3
XXX xxx	Free Elective 1	3	0	3
Total		14	3	15

Semester 2

Course	Title	LT	LB	Cr
ISE 470	Supply Chain Systems Modeling	3	0	3
MGT 475	Business Strategy and Competitive Advantage	3	0	3
OSC 460	Case Studies in OSC	3	0	3
OSC 412	Senior Project II	0	6	3
OSC/ISE xxx	Major Elective 2	3	0	3
XXX xxx	Free Elective 2	3	0	3
Total		15	0	18



128 CR

*Prerequisite course

Degree Plan

BS Operations and Supply Chain

 Four years | 127 Credit Hours | Internship

Freshman Year

Semester 1

Course	Title	LT	LB	Cr
IAS 111	Beliefs and its Consequences	2	0	2
ECON 101	Principles of Microeconomics I	3	0	3
ENGL 101	Intro. to Academic Discourse	3	0	3
ICS 104	Intro. to Program. In Python & C	2	3	3
MATH 101	Calculus 1	4	0	4
PE 101	Health and Physical Education 1	0	2	1
Total		14	5	16

Semester 2

Course	Title	LT	LB	Cr
ACCT 110	Intro. to Financial Accounting	3	0	3
ECON 102	Principles of Microeconomics II	3	0	3
ENGL 102	Intro. to Report Writing	3	0	3
BUS 200	Business & Entrepreneurship	3	0	3
MATH 102	Calculus II	4	0	4
IAS 121	Language Foundation	2	0	2
Total		18	0	18

Sophomore Year

Semester 1

Course	Title	LT	LB	Cr
ACCT 210	Intro. to Managerial Accounting	3	0	3
IAS 212	Professional Ethics	2	0	2
ENGL 214	Academic & Professional Comm.	3	0	3
ISE 291	Intro. to Data Science	3	0	3
BAI 220	Business Information and Digital Systems	3	0	3
STAT 214	Statistical Methods for Actuarial Science and Business	3	2	4
Total		17	2	18

Semester 2

Course	Title	LT	LB	Cr
IAS 3/4xx	Islamic/Arabic Elective	2	0	2
FIN 250	Financial Management	3	0	3
COE 292	Intro. to Artificial Intelligence	3	0	3
MKT 250	Principles of Marketing	3	0	3
OM 311	Business Analytics	3	0	3
OSC 210	Introduction to Operations and Supply Chain	3	0	3
Total		17	0	17

Junior Year

Semester 1

Course	Title	LT	LB	Cr
BAI 300	Applied AI in Business	3	0	3
MGT 310	Organization Behaviour	3	0	3
OSC 310	AI for Forecasting and Operations Planning	3	0	3
OSC 320	Intelligent Enterprise Systems	3	0	3
OSC 340	Decision and Risk Analytics	3	0	3
OSC/ISE xxx (1)	Major Elective 1	3	0	3
Total		18	0	18

Semester 2

Course	Title	LT	LB	Cr
CGS 392	Career Essentials	0	2	1
GS XXX	GS Elective	3	0	3
ISE 402	Production Systems and Inventory Control	3	0	3
OSC 331	Sourcing and Procurement	3	0	3
OSC 410	Analytics for Performance Excellence	3	0	3
OSC/ISE xxx (1)	Major Elective 2	3	0	3
Total		15	2	16

Senior Year

Semester 1

Course	Title	LT	LB	Cr
OSC 398	Internship	0	0	6
OSC 411	Senior Project I	0	0	0
Total		0	0	6

Semester 2

Course	Title	LT	LB	Cr
ISE 443	Human Factors Engineering	2	3	3
ISE 470	Supply Chain Systems Modelling	3	0	3
MGT 475	Business Strategy and Competitive Advantage	3	0	3
OSC 450	Sustainable Operations	3	0	3
OSC 460	Case Studies in OSC	3	0	3
OSC 412	Senior Project II	3	0	3
Total		17	3	18



127 CR

*Prerequisite course

Flowcharts

BS Operations and Supply Chain

(Summer training)

FRESHMAN		SOPHPMORE		JUNIOR		SUMMER	SENIOR	
First Sem.	Second Sem.	First Sem.	Second Sem.	First Sem.	Second Sem.		First Sem.	Second Sem.
ENGL 101	ENGL 102 Prereq:ENGL101	ENGL 214 Prereq:ENGL102	MKT 250 Prereq:ENGL102 ,BUS200	OSC 310 Prereq:OSC210	MGT 310 Prereq:BUS200, ENGL102	OSC 399	OSC/ISE 3/4XX	MGT 475 Prereq:MGT310, MKT250,FIN250
MATH 101	MATH 102 Prereq:MATH101	ISE 291 Prereq:MATH10 2	FIN 250 Prereq:ACCT110 ,ECON102	IAS 3XX/4XX	ISE 402 Prereq:OM311 ,OSC210		OSC 411	ISE 470 Prereq:ISE402
PE 101	IAS 111	STAT 214 Prereq:MATH10 2	COE 292 Prereq:ISE291	BIA 300 Prereq:COE292	OSC 331 Prereq:OSC210		OSC 450 Prereq:OSC340	OSC 412 Prereq:OSC411
ECON 101	ECON 102 Prereq:ECON101	ACCT 210 Prereq:ACCT110 ,BUS200	BAI 220 Prereq:CS104	OSC 320 Prereq:BAI220, OSC210	GS XXX		XXX xxx	OSC/ISE 3/4XX
BUS 200	ACCT 110	IAS 121	OSC 210 Prereq:STAT214	OM 311 Prereq:STAT214	OSC 340 Prereq:OSC210		ISE 443 Prereq:STAT214	XXX xxx
ICS 104			IAS 212 Prereq:IAS111	GS 392 Prereq:ENGL214			OSC 410 Prereq:OSC310	OSC 460 Prereq:OSC410

BS Operations and Supply Chain

(Internship)

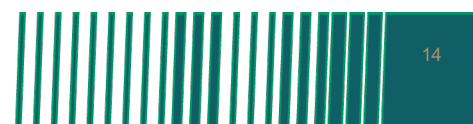
FRESHMAN		SOPHPMORE		JUNIOR		SENIOR	
First Sem.	Second Sem.	First Sem.	Second Sem.	First Sem.	Second Sem.	First Sem.	Second Sem.
ENGL 101	ENGL 102 Prereq:ENGL101	ENGL 214 Prereq:ENGL102	COE 292 Prereq:ISE291	OSC 340 Prereq:OSC210	OSC 410 Prereq:OSC310	OSC398 Prereq:85credit hours,ENGL214,	MGT 475 Prereq:MGT310, MKT250,FIN250
MATH 101	MATH 102 Prereq:MATH101	ISE 291 Prereq:MATH10 2,ICS104	MKT 250 Prereq:ENGL102 ,BUS200	BIA 300 Prereq:COE292	XXX xxx	OSC 411	ISE 470 Prereq:ISE402
PE 101	BUS 200	STAT 214 Prereq:MATH10 2	FIN 250 Prereq:ACCT110 ,ECON102	OSC 310 Prereq:OSC210	ISE 402 Prereq:STAT214 ,OSC210,OM311		ISE 443 Prereq:STAT214
ECON 101	ECON 102 Prereq:ECON101	ACCT 210 Prereq:ACCT110 ,BUS200	OM 311 Prereq:STAT214	OSC 320 Prereq:OSC210 ,BAI220	GS XXX		OSC 460 Prereq:OSC410
IAS 111	ACCT 110	BAI 220 Prereq:CS104	IAS 3XX/4XX	OSC/ISE 3/4XX	OSC 331 Prereq:OSC210		OSC 412 Prereq:OSC411
ICS 104	IAS 121	IAS 212 Prereq:IAS111	OSC 210 Prereq:STAT214	MGT 310 Prereq:BUS200, ENGL102	GS 392 Prereq:ENGL214		OSC 450 Prereq:OSC340

Course Description

BS Operations and Supply Chain

Course	OSC 210: Introduction to Operations and Supply Chain	OSC 310: AI for Forecasting and Operations Planning	OSC 320: Intelligent Enterprise Systems
Course Description	Introduction to Operations and Supply Chain; Supply Chain strategy; Descriptive analytics; Diagnostic analytics; Predictive analytics; Prescriptive analytics; Operations performance; Capability trade-offs; Capacity planning; Technology adoption; Inventory management; Supply network structure; Project management; Demand forecasting; Layout; MRP/ERP; Quality management; Make-buy.	Practical insights and methodologies on AI for Forecasting planning in operations & supply chain; Demand variability and uncertainty in planning; Forecasting accuracy; Forecast bias and error diagnosis; Time-series forecasting with statistical methods; AI & machine learning for forecasting; Explainable forecasting AI models; Capacity planning under constraints; Production, inventory, and materials planning logic; AI-based forecasting for uncertain demand; Capacity and resource planning under constraints; Sales and operations planning (S&OP); Integrated AI-based planning	Role of enterprise systems in operational coordination; ERP concepts and core transactional processes; Master data and operational data management; Performance monitoring using dashboards and KPIs; Execution visibility and exception management; Analytics embedded in enterprise systems; Data-driven decision workflows; Cross-organizational information integration; Governance, controls, and system accountability; Managing change and system adoption.
Pre-requisite	STAT 214	OSC 210	BAI 220 and OSC 210

Course	OSC 331: Sourcing and Procurement	OSC 340: Decision and Risk Analytics	OSC 410: Analytics for Performance Excellence
Course Description	The strategic role of procurement within organizations and supply chains, sourcing strategy, supplier selection, contract management, and performance evaluation, procurement governance, supplier relationships, negotiation, and category management, spreadsheet-based cost modeling and decision analysis, experiential components such as negotiation exercises and simulation are also incorporated.	Introduction to decision analysis and prescriptive analytics for supply chain and operations decisions. Decision challenges, foundations of decision analysis, decision quality and process design, decision framing using influence diagrams, stakeholder objectives and value measures, and alternative development. Deterministic modeling using spreadsheet tools, including net present value, scenario, and sensitivity analysis. Probability foundations, uncertainty quantification, Monte Carlo simulation, decision trees, risk attitude, value of information, constrained optimization, portfolio resource allocation, and communication and implementation of analytical decisions	Performance excellence in operations and supply chains, Performance measurement systems and KPIs, Process variation and performance risk, Root-cause analysis and diagnostic analytics, Predictive analytics for performance improvement, Prescriptive analytics for improvement prioritization, Lean principles supported by data, Six Sigma concepts and DMAIC framework, Statistical process control fundamentals, Benchmarking and continuous improvement programs.
Pre-requisite	OSC 210	OSC 210	OSC 310



Course Description

BS Operations and Supply Chain

Course	OSC 450: Sustainable Operations	OSC 460: Case Studies in Operations and Supply Chain	ISE 402 : Production Systems and Inventory Control
Course Description	Introduction to sustainability principles into operations and supply chain management. Sustainability frameworks, operations strategy, sustainability performance measurement, carbon accounting and emissions analysis, sustainable process design, and life cycle assessment. Circular economy systems, sustainable supply chain, inventory and transportation decisions, quality improvement methodologies, digital transformation, and project management for sustainability. Emphasis on carbon footprint evaluation, analytical tools and managerial decision-making.	Integrative case-based analysis of contemporary operations and supply chain management issues, supply chain strategy and design, process management and technology enablement, production planning and demand management, warehouse and inventory management, distribution network design, disruption and risk management, supply chain digitization, and sustainability and circularity. Case-analysis, articles, and simulations to practice structured problem diagnosis, evidence based recommendation development, managerial communication, and ethical decision-making in complex real-world settings..	Elements of functional organization. Forecasting in production systems. Product and process design considerations. Deterministic and stochastic inventory systems. Production scheduling and line balancing. Capacity planning. Material requirement planning (MRP). Computer applications in production control. Case studies and applications.
Pre-requisite	OSC 340	OSC410	STAT 214, OM 210 or OSC 210 and OM 311
Course	ISE 443: Human Factors Engineering	ISE 470: Supply Chain Systems Modeling	
Course Description	Study of human response into man-machine systems. Study of visual displays as a medium of input. Auditory and tactual displays. Human control of systems. Control tools and related devices. Applied anthropometry and workplace design. Physical space arrangement, Environment, Illumination, Atmospheric conditions and noise.	This course adopts a modeling approach to supply chains that is designed to study trade-offs between system costs and customer service. Topics covered include supply chain design, multi-location inventory-distribution models, bullwhip effect, delayed differentiation, and e-commerce and supply chain. The key insights provided by such system-wide models will be illustrated through the use of software packages, real cases discussion and presentations and term projects. In addition, the course will highlight the role of information technology in supporting supply chain operations.	
Pre-requisite	STAT 214	ISE 402	

Career Prospects

BS Operations and Supply Chain



Supply Chain Transformation Manager

Leads multi-year initiatives to redesign the operating model (planning, sourcing, logistics, manufacturing interface), align capabilities to corporate strategy, and deliver measurable improvements in cost, service, and resilience

Supply Chain Network Analytics Lead

Designs and optimizes supply networks (plants, DCs, transportation flows, inventory positioning) using modeling/optimization to improve service, cost, and responsiveness for supporting growth, localization, and mega-project scale-up

Operations Excellence Consultant

Leads continuous improvement portfolios across production, warehousing, and service operations; builds KPI systems, identifies root causes, deploys standard work and data-driven improvement, and scales best practices across sites/functions

Supply Chain Risk & Sustainability Manager

Strengthens continuity and resilience (multi-sourcing, buffers, contingency planning), embeds risk analytics into planning and procurement, and advances sustainability initiatives (waste, energy, emissions, circularity) across end-to-end operations

Integrated Business Planning (IBP) / S&OP Manager

Owns cross-functional planning governance (demand, supply, inventory, capacity, and financial alignment), drives trade-off decisions, and ensures execution discipline through scenario planning and KPI-led performance reviews

Strategic Sourcing & Category Manager

Develops category strategies, supplier segmentation, and contracting approaches; improves total cost of ownership, supplier performance, and risk exposure; and embeds analytics into sourcing decisions and supplier relationship management

Digital Supply Chain Leader

Builds “sense-and-respond” operations using integrated data, dashboards, and exception management; orchestrates visibility across logistics, inventory, and suppliers; and drives faster decisions through control-tower capabilities and digital workflows

Thank you

